

### **Experimental Methodology and Results**

Increased sorcin expression or overexpression improves cardiomyocyte contractility in hearts with heart failure. Mice were subjected to ascending aortic constriction (AAC) for 10 weeks. At the same time of the surgery, adeno-associated virus expressing sorcin (AAV-sorcin) was injected directly in the free wall of the left ventricle. AAV expressing GFP was injected in combination with AAV-sorcin in order to identify the cells that were infected. Another group of mice were subjected to AAC and were injected with AAV-GFP alone. Cells were isolated after 10 weeks and cell shortening was assessed. \* $p < 0.05$  vs. AAC+GFP,  $n = 12$  cells each group.

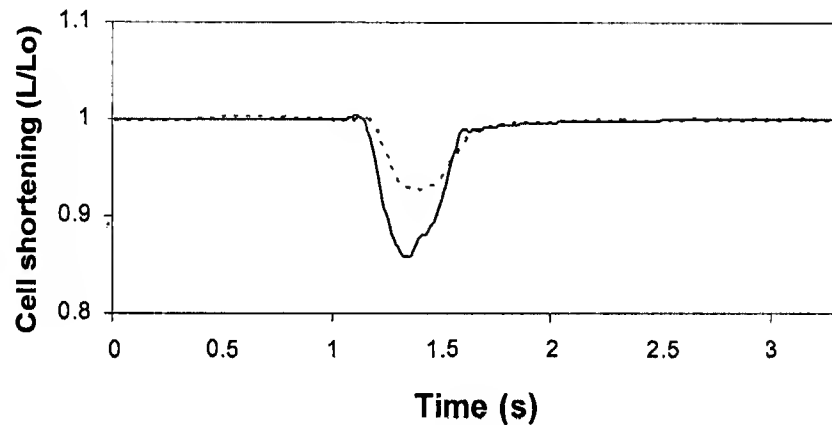


Figure 1. Shows original tracings of sorcin overexpressing cardiomyocytes (AAC+AAV-Sorcin; solid line) and control (dashed line).

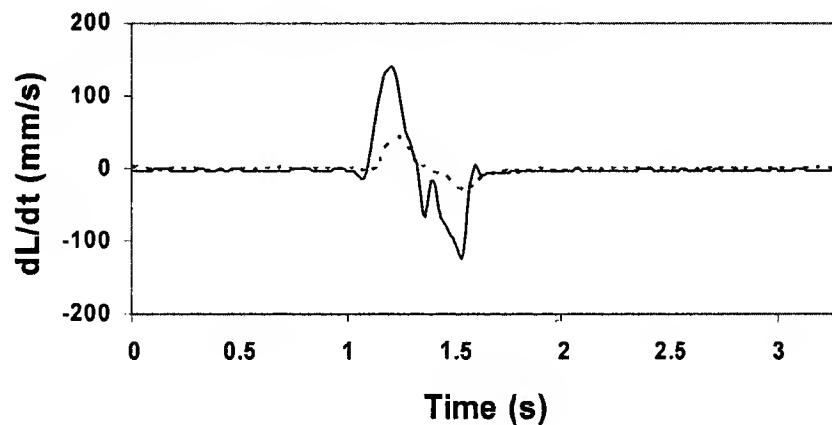


Figure 2. Shows original tracings of sorcin overexpressing cardiomyocytes (AAC+AAV-Sorcin; solid line) and control (dashed line).

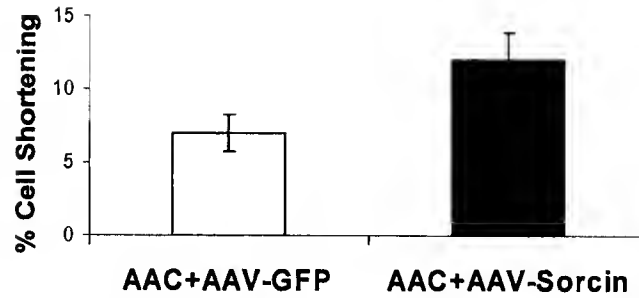


Figure 3. Shows the rate of cell shortening as percentage. Cell shortening was significantly increased in AAC+AAV-Sorcin cells as compared to control.

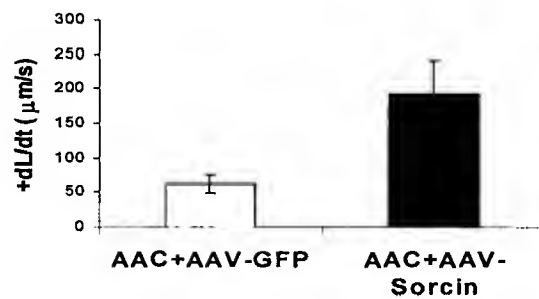


Figure 4. Shows the rate of cell shortening. Cell shortening was significantly increased in AAC+AAV-Sorcin cells as compared to control.

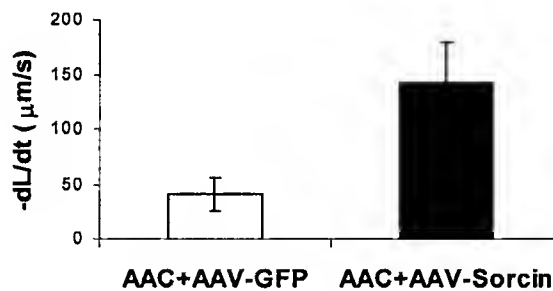


Figure 5. Shows the rate of cell shortening. Cell shortening was significantly increased in AAC+AAV-Sorcin cells as compared to control.